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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/550,596

04/17/2000

Mauro Bettati

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01/26/2005

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/550,596

Applicant(s)

BETTIATI ET AL.

Examiner

ARMANDO RODRIGUEZ

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 24-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

Claims 1-23 have been canceled.

Claims 24-39 are pending.

The 35 USC 112 rejection of claims 24-39 has been withdrawn based on applicant's amendment and arguments filed on November 11, 2004.

### ***Response to Arguments***

Applicant's arguments, see page 5, filed November 11, 2004, with respect to claims 24-39 have been fully considered and are persuasive. The 35 USC 112 rejection of claims 24-39 has been withdrawn.

However, applicant's argument on page 5 pertaining to the laser operating in a non-lasing mode, or below a lasing threshold as being well known in the art, and where claim 24 recites "wherein the laser is operating below a lasing threshold at  $\lambda_{\max}$ ", is being interpreted by the examiner as the laser operating in a non-lasing mode.

Regarding the prior art rejection of claims 24-39, applicant's arguments do not comply 37 CFR 1.111 (c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the reference cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

***Priority***

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

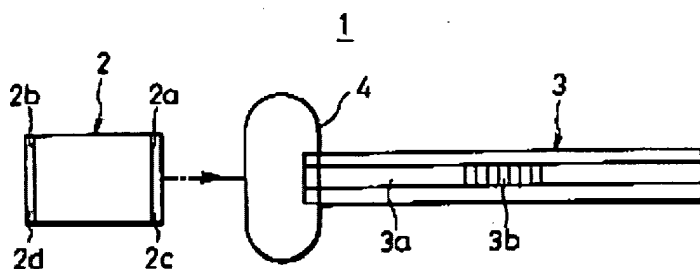
Claims 24-27,33-35,38 and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Mugino et al (PN 6,343,088).

Regarding claim 24,

Mugino et al illustrates in figure 12 a semiconductor laser module having a semiconductor laser (2) with a reflecting surface (2b), an emitting surface (2a) and an optical fiber (3) including a fiber grating (3b), as described in column 9 lines 20-35 and

Art Unit: 2828

column 10 lines 50-55. In column 3 lines 58-65 and column 10 lines 43-49, Mugino et al describes the semiconductor laser having central wavelength and the fiber grating having a central wavelength, where the difference of the wavelengths is + or – 20nm or less, which clearly encompass the claimed difference in wavelength of 10nm. In column 11 lines 18-37, discloses the operating the laser at different temperatures including 25°C, which is considered ambient temperature.

**FIG. 12**

Regarding claim 25,

In column 3 lines 58-65, Mugino et al describes the semiconductor laser having central wavelength and the fiber grating having a central wavelength, where the difference of the wavelengths is + or – 20nm or less, which clearly encompass the claimed difference in wavelength of 10nm.

Regarding claim 26,27,39,

In column 3 lines 58-65, Mugino et al describes the semiconductor laser having central wavelength and the fiber grating having a central wavelength, where the difference of the wavelengths is + or – 20nm or less, which clearly encompass the claimed difference in wavelength of 10nm. In column 11 lines 18-37, discloses the

Art Unit: 2828

operating the laser at different temperatures including 25°C, which is considered ambient temperature.

Regarding claim 33,

Figure 12 does illustrate an optical fiber (3).

Regarding claims 34,35,

Column 3 lines 58-65, describes the semiconductor laser as having either a bulk structure or quantum well structure.

Regarding claim 38,

Figure 12 does illustrate an optical fiber (3) with a Bragg grating (3b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28,29 and 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mugino et al (PN 6,343,088).

Regarding claims 28,30-32,

Mugino et al discloses in column 9 lines 29-35, a reflectance of 1% on the emitting surface (2a) and in column 10 lines 50-58, discloses the fiber grating having a reflectance at the central wavelength of 4%.

Mugino et al does not explicitly disclose the claimed reflection coefficient of 0.1% for the output face or 5% and 1% reflection coefficient for the grating.

Art Unit: 2828

However, in column 7 lines 8-17, describes an equation where the reflectance of the emitting surface ( $R_1$ ) and the reflectance of the grating ( $R_{GL}$ ) must satisfy:

$(R_{GL} - R_1 \geq -2\%)$ .

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the requirements of reflectance between the emitting surface and the grating based on the equation of Mugino et al because it would provide a relationship between the emitting and the grating as in claims 28,30-32 and would also provide stable laser emission under changes of temperature, as described in column 2 lines 14-19.

Regarding claim 29,

In column 3 lines 58-65, Mugino et al does describes the semiconductor laser having central wavelength and the fiber grating having a central wavelength, where the difference of the wavelengths is + or – 20nm or less, which encompass the claimed difference in wavelength of 10nm. In column 11 lines 18-37, discloses the operating the laser at different temperatures including 25°C, which is considered ambient temperature.

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mugino et al (PN 6,343,088) in view of Ventrudo et al (PN6,233,259).

Regarding claim 36,

Mugino et al is silent as to the InGaAs in semiconducting medium.

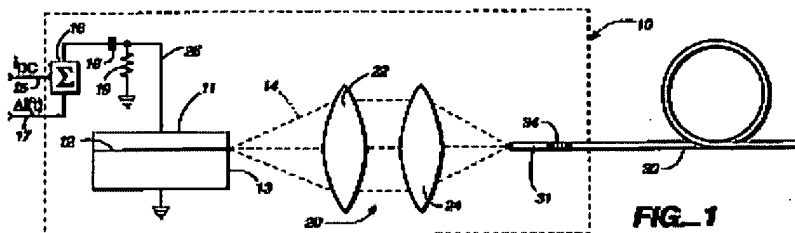
However, the use of InGaAs in semiconductor lasers is well known in the art as described by Ventrudo et al in column 3 lines 50-60.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mugino et al (PN 6,343,088) in view of Ventrudo (PN 6,240,119).

Regarding claim 37,

Mugino et al does not disclose the use of a collimating lens and a focusing lens.

However, the use of optical elements for coupling laser radiation is well known in the art, as shown by Ventrudo. Figure 1 illustrates a pigtailed laser diode having a collimating lens (22) and a focusing lens (24) for coupling the laser diode radiation to the optical fiber.



### Conclusion

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



Art Unit: 2828

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ARMANDO RODRIGUEZ  
Examiner  
Art Unit 2828

  
MINSUN HARVEY  
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